

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P544878

Luminaire Tested: **FMR-12-1-LD4-1STD-35-UNV-82-97-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P544878  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-12-1-LD4-1STD-35-UNV-82-97-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

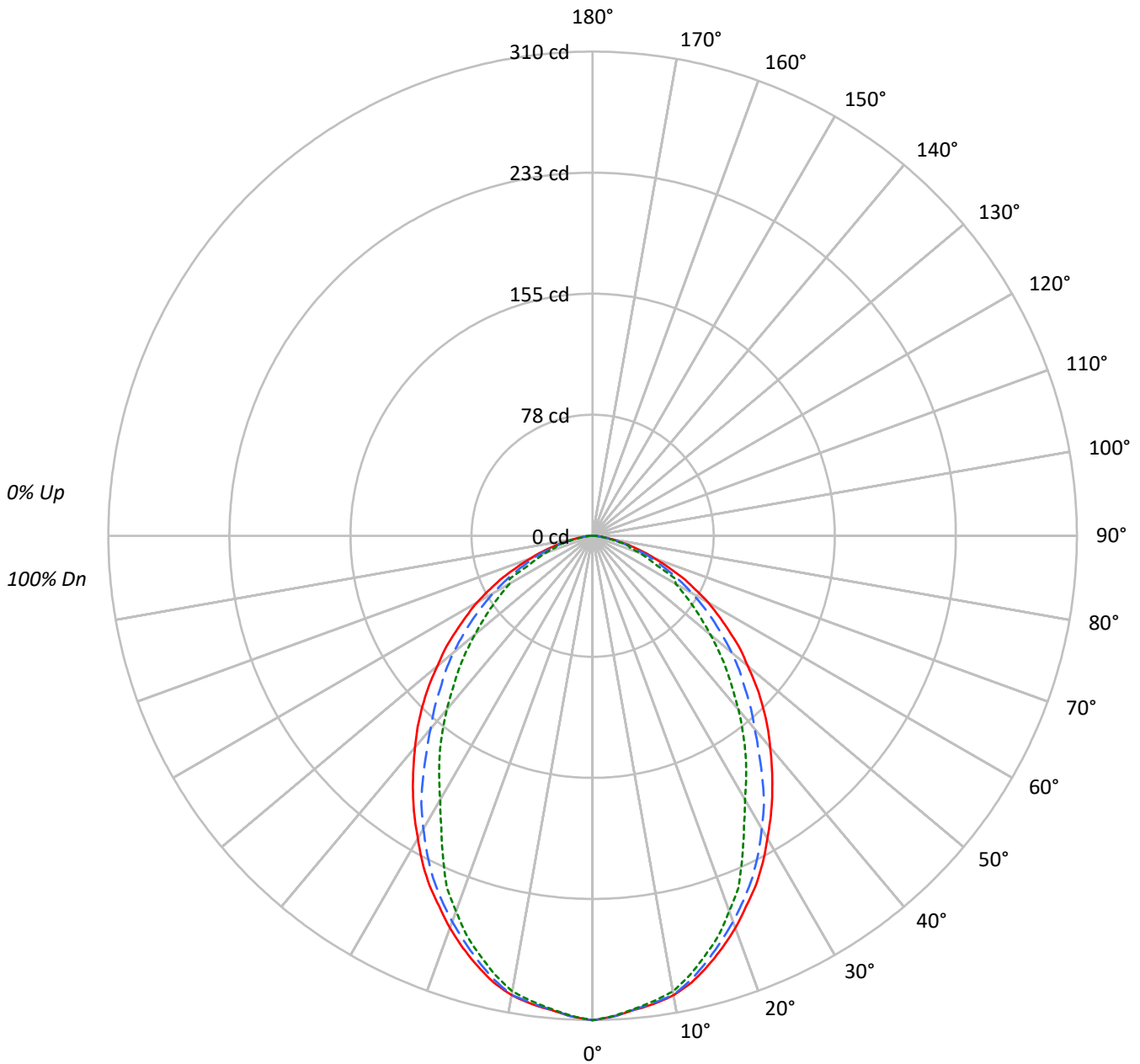
Lumens per Lamp: N/A  
Luminaire Lumens: 609.0 lumens  
Efficiency: N/A  
Efficacy: 73.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	47	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3339	3339	3339
5°	3293	3290	3286
10°	3265	3262	3237
15°	3177	3145	3101
20°	3061	3011	2929
25°	2935	2871	2692
30°	2782	2692	2425
35°	2635	2489	2243
40°	2484	2268	2040
45°	2343	2096	1845
50°	2169	1946	1646
55°	2006	1764	1473
60°	1838	1576	1320
65°	1617	1380	1169
70°	1331	1209	995
75°	1061	923	969
80°	713	669	620
85°	445	531	618



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.9	4.7
10°-20°	79.2	13.0
20°-30°	109.7	18.0
30°-40°	117.0	19.2
40°-50°	106.7	17.5
50°-60°	83.6	13.7
60°-70°	54.5	8.9
70°-80°	24.2	4.0
80°-90°	5.2	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	217.8	35.8
0°-40°	334.8	55.0
0°-60°	525.2	86.2
0°-90°	609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	609.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	310	310	310	310	310	
5°	305	304	304	304	304	29
15°	285	285	282	279	278	80
25°	247	246	242	233	227	113
35°	200	199	189	175	171	125
45°	154	151	138	126	121	119
55°	107	104	94	83	78	96
65°	64	60	54	55	46	63
75°	26	24	22	21	23	27
85°	4	4	4	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	310.2	310.2	310.2	310.2	310.2
2.5°	308.1	308.1	308.1	307.7	307.7
5°	304.8	304.5	304.5	304.1	304.1
7.5°	302.3	302.0	301.6	301.3	300.5
10°	298.7	298.7	298.4	296.6	296.2
12.5°	293.0	292.6	291.2	288.7	288.0
15°	285.1	285.1	282.2	279.4	278.3
17.5°	276.5	276.1	272.6	269.7	268.3
20°	267.2	266.5	262.9	258.2	255.7
22.5°	256.8	256.8	252.5	246.4	243.9
25°	247.1	245.7	241.7	233.1	226.7
27.5°	236.0	233.8	229.5	217.3	209.8
30°	223.8	222.7	216.6	200.8	195.1
32.5°	212.3	210.5	204.1	187.6	182.9
35°	200.5	199.0	189.4	175.0	170.7
37.5°	188.6	186.8	174.7	163.2	157.8
40°	176.8	174.7	161.4	151.0	145.2
42.5°	165.7	162.8	149.9	138.8	132.3
45°	153.9	150.6	137.7	126.2	121.2
47.5°	142.0	139.1	127.3	115.5	109.7
50°	129.5	127.0	116.2	104.4	98.3
52.5°	119.1	115.1	104.7	92.9	87.9
55°	106.9	103.6	94.0	82.8	78.5
57.5°	95.8	92.5	83.6	73.2	69.6
60°	85.4	80.7	73.2	64.2	61.3
62.5°	73.9	70.3	63.8	56.3	59.9
65°	63.5	59.9	54.2	55.2	45.9
67.5°	52.0	50.2	45.2	40.2	38.7
70°	42.3	40.2	38.4	33.0	31.6
72.5°	33.7	31.6	29.0	26.2	25.1
75°	25.5	23.7	22.2	21.2	23.3
77.5°	17.6	16.9	15.8	14.7	14.3
80°	11.5	11.1	10.8	10.4	10.0
82.5°	6.8	6.8	6.8	6.8	6.8
85°	3.6	3.9	4.3	4.7	5.0
87.5°	2.2	2.2	2.5	2.9	3.2
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)